In the Claims:

1. (Previously Presented) A method for controlling timing of synchronization maintenance messages between a subscriber access unit and a base station processor in a wireless CDMA system comprising:

providing at least one link between the subscriber access unit and the base station processor, the link establishing synchronization between the subscriber access unit and the base station processor;

transmitting a synchronization maintenance message from the subscriber access unit to the base station processor; and

computing a timing interval in which to periodically resending the synchronization maintenance message for maintaining an idling mode connection between the subscriber access unit and the base station processor.

2. (Original) The method of claim 1 wherein computing the timing interval further comprises determining a duration required to maintain each of the wireless links.

3. (Original) The method of claim 1 wherein the timing interval is a timeslot.

4. (Original) The method of claim 3 further comprising a plurality of subscriber access units wherein each of the subscriber access units corresponds to one of a plurality of timeslots.

5. (Original) The method of claim 1 wherein the links further comprise active and inactive links and the synchronization maintenance message is transmitted on the inactive links.

6. (Original) The method of claim 1 wherein the idling mode connection maintains the synchronization between the subscriber access unit and the base station processor.

7. (Original) The method of claim 6 wherein the synchronization further comprises maintaining a code phase lock.

8. (Original) The method of claim 7 wherein computing the timing interval further comprises determining a minimal duration for maintaining the idling mode connection.

9. (Original) The method of claim 8 wherein the minimal duration is determined using a locking range of the code phase lock circuits at the base station.

10. (Original) The method of claim 8 wherein the minimum duration is determined by a channel timing variation.

11. (Original) The method of claim 8 wherein the minimum duration is determined by the maximum timing error required to maintain reverse link orthogonality among user channels.

12. (Original) The method of claim 1 wherein transmitting the synchronization maintenance message further comprises a timing marker indicative of a reference point for generating timing correction information.

13. (Original) The method of claim 12 wherein the timing marker is a pilot symbol.

14. (Previously Presented) The method of claim 13 wherein the timing marker is a short code.

15. (Original) The method of claim 1 wherein, in response to the synchronization maintenance message, the base station processor sends an advance/retard message indicative of when the next synchronization maintenance message should be sent.

16. (Original) The method of claim 15 wherein the advance/retard message further comprises a link quality management (LQM) timing bit sent on a LQM channel.

17. (Original) The method of claim 16 wherein the LQM timing bit corresponds to 1/8 of a chip time.

18. (Original) The method of claim 17 wherein after receiving a predetermined number of consecutive identical LQM timing bits, each successive identical LQM timing bit causes timing to be adjusted at an increased rate.

19. (Original) The method of claim 18 wherein the predetermined number is eight.

20. (Previously Presented) A system for controlling timing of synchronization maintenance messages between a subscriber access unit and a base station processor in a wireless CDMA system comprising:

a base station processor;

at least one subscriber access unit;

a protocol converter in the base station processor operable to provide at least one wireless link between the subscriber access unit and the base station processor, the wireless link establishing synchronization between the subscriber access unit and the base station processor; and

a synchronization maintenance message to be sent from the at least one subscriber access unit to the base station processor, the protocol converter further operable to compute a timing interval in which to periodically resend the synchronization maintenance message for maintaining an idling mode connection on the wireless link between the subscriber access unit and the base station processor.

21. (Original) The system of claim 20 wherein the protocol converter is further operable to determine a duration required to maintain each of the wireless links.

22. (Original) The system of claim 21 wherein the timing interval is a timeslot.

23. (Original) The system of claim 22 further comprising a plurality of subscriber access units, wherein each of the subscriber access units corresponds to one of a plurality of timeslots.

24. (Original) The system of claim 20 wherein the wireless links further comprise active and inactive links and the synchronization maintenance message is transmitted on the inactive links.

Claim 25 (Cancelled).

26. (Original) The system of claim 20 wherein the idling mode connection further comprises maintaining a code phase lock.

27. (Original) The system of claim 20 where the protocol converter is further operable to determine a minimal duration for maintaining the idling mode connection.

28. (Previously Presented) The system of claim 27 further comprising code phase lock circuits having a locking range at the base station, the code phase lock circuits operable to indicate the minimal duration.

29. (Original) The system of claim 20 wherein the base station processor is further operable to transmit a timing marker indicative of a reference point for generating timing correction information.

30. (Original) The system of claim 29 wherein the timing marker is a pilot symbol.

31. (Original) The system of claim 30 wherein the timing marker is a short code.

32. (Original) The system of claim 20 wherein the base station processor is further operable to, in response to the synchronization maintenance message, send an advance/retard message indicative of when the next synchronization maintenance message should be sent.

33. (Original) The system of claim 31 wherein the advance/regard message further comprises a link quality management (LQM) timing bit sent on an LQM channel.

34. (Original) The system of claim 33 wherein the LQM timing bit corresponds to 1/8 of a chip time.

35. (Original) The system of claim 33 wherein, after receiving a predetermined number of consecutive identical LQM timing bits, the protocol converter is operable to cause timing to be adjusted at an increased rate upon receiving successive identical LQM timing bit causes.

36. (Original) The system of claim 34 wherein the predetermined number is eight.

37. (New) A subscriber unit comprising:
a wireless transceiver configured to provide

wireless communications of digital signals over a digital communications path in a wireless CDMA system; and

a bandwidth manager coupled to said wireless transceiver and configured to receive over the digital communications path a time slot assignment from a remote wireless transceiver;

said wireless transceiver configured to transmit a gated idle mode signal over the digital communications path based upon the time slot assignment during an idle mode connection wherein said wireless transceiver is powered on but not actively sending data so that the remote wireless transceiver can maintain timing alignment.

38. (New) A subscriber unit according to Claim 37 wherein the remote wireless transceiver maintains a code phase lock with said wireless transceiver based upon the gated idle mode signal.

39. (New) A subscriber unit according to Claim 37 wherein the gated idle mode signal comprises a timing marker indicative of a reference point for generation of timing correction information.

40. (New) A subscriber unit according to Claim 39 wherein the timing marker comprises a pilot symbol.

41. (New) A subscriber unit according to Claim 39 wherein the timing marker comprises a short code.

42. (New) A subscriber unit according to Claim 37

wherein said bandwidth manager is configured to receive over the data communications path an updated time slot assignment when a subsequent gated idle mode signal is to be transmitted.

43. (New) A CDMA mobile terminal comprising:

a wireless transceiver configured to provide wireless communications of digital signals over a digital communications path in a wireless CDMA system, including transmission of a synchronization signal to establish a communications session with a CDMA base station; and

a bandwidth manager coupled to said wireless transceiver and configured to

allocate subchannels on an as needed basis when said wireless transceiver is actively sending data, and

receive over the digital communications path a time slot assignment from the CDMA base station for transmitting a gated idle mode signal;

said wireless transceiver configured to transmit the gated idle mode signal over the digital communications path based upon the time slot assignment during an idle mode connection wherein said wireless transceiver is powered on but not actively sending data so that the remote wireless transceiver can maintain timing alignment.

44. (New) A CDMA mobile terminal according to Claim 43 wherein the CDMA base station maintains a code phase lock with said wireless transceiver based upon the gated idle mode signal.

45. (New) A CDMA mobile terminal according to Claim 43 wherein the gated idle mode signal comprises a timing marker indicative of a reference point for generation of timing correction information.

46. (New) A CDMA mobile terminal according to Claim 45 wherein the timing marker comprises a pilot symbol.

47. (New) A CDMA mobile terminal according to Claim 45 wherein the timing marker comprises a short code.

48. (New) A CDMA mobile terminal according to Claim 43 said bandwidth manager is configured to receive over the data communications path an updated time slot assignment on when a subsequent gated idle mode signal is to be transmitted.

49. (New) A subscriber unit comprising:

a wireless transceiver configured to provide wireless communications of digital signals over a digital communications path in a wireless CDMA system, the digital signals being communicated using at least one radio frequency channel; and

a bandwidth manager coupled to said wireless transceiver and configured to make available a plurality of subchannels within each radio frequency channel, and to allocate the available subchannels on an as-needed basis with the number of subchannels changing during a given session;

said wireless transceiver configured to transmit a gated idle mode signal in an available subchannel over the digital communications path during an idle mode connection

wherein said wireless transceiver is powered on but not actively sending data.

50. (New) A subscriber unit according to Claim 49 wherein said bandwidth manager is configured to receive over the digital communications path a time slot assignment from a remote wireless transceiver; and wherein said wireless transceiver is configured to transmit the gated idle mode signal over the digital communications path during the idle mode connection based upon the time slot assignment so that the remote wireless transceiver can maintain timing alignment.

51. (New) A subscriber unit according to Claim 50 wherein the gated idle mode signal comprises a timing marker indicative of a reference point for generation of timing correction information.

52. (New) A subscriber unit according to Claim 49 wherein said bandwidth manager is configured to receive over the digital communications path a power control message from a remote wireless transceiver, and to compute a power level corresponding to the power control message for the gated idle mode signal; and wherein said wireless transceiver is configured to transmit the gated idle mode signal over the digital communications path during the idle mode connection at the computed power level to the remote wireless transceiver so that power control is maintained.

53. (New) A subscriber unit according to Claim 49 wherein said wireless transceiver transmits the gated idle

mode signal at predetermined intervals.

54. (New) A subscriber unit according to Claim 49 wherein said bandwidth manager is configured to select an idle mode signal spreading code; and wherein said wireless transceiver is configured to transmit the gated idle mode signal comprising the spreading code information over the digital communications path during the idle mode connection so that a code phase lock is maintained with a remote wireless transceiver.

55. (New) A subscriber unit according to Claim 54 wherein said wireless transceiver transmits the gated idle mode signal at a rate that maintains the code phase lock over the digital communications path.

56. (New) A subscriber unit comprising:

a wireless transceiver configured to provide wireless communications of digital signals over a digital communications path in a wireless CDMA system;

a bandwidth manager coupled to said wireless transceiver and configured to receive over the digital communications path a time slot assignment and a power control message from the remote wireless transceiver;

said bandwidth manager configured to compute a power level corresponding to the power control message, and to select an idle mode signal spreading code; and

said wireless transceiver configured to transmit a gated idle mode signal to the remote wireless transceiver over the digital communications path based upon the time slot

assignment during an idle mode connection wherein said wireless transceiver is powered on but not actively sending data so that power control is maintained, a code phase lock is maintained, and timing alignment is maintained with the remote wireless transceiver.

57. (New) A subscriber unit according to Claim 56 wherein the gated idle mode signal comprises a timing marker indicative of a reference point for generation of timing correction information.

58. (New) A subscriber unit according to Claim 56 wherein said wireless transceiver transmits the gated idle mode signal at predetermined intervals.

59. (New) A subscriber unit according to Claim 56 wherein said wireless transceiver transmits the gated idle mode signal at a rate that maintains the code phase lock over the digital communications path.